



Substitute Form PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office				Application No. 09/785,188	
<b>Information Disclosure Statement</b> <b>by Applicant</b> <small>(Use several sheets if necessary)</small>				<b>Applicant</b> <b>J. F. T. CONROY, M.E. POWER, and P. M.</b> <b>NORRIS</b>			
(37 CFR §1.98(b))				Filing Date 02/20/2001	Group Art Unit UNKNOWN		
<b>U.S. Patent Documents</b>							
Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
<i>an</i>	EA	5,207,814	5/4/1993	Cogliati et al.	65	18.3	100-200

<b>Other Documents (include Author, Title, Date, and Place of Publication)</b>							
Examiner Initial	Desig. ID	Document					
<i>an</i>	EB	M. Al-Saraj, M.S. Abdel-Latif, I. El- Nahal, and R. Baraka, "Bioaccumulation of Some Hazardous Metals by Sol-Gel Entrapped Microorganisms," <i>J. Non- Cryst. Sol.</i> Vol. 248, p. 137-140 (1999).					
<i>an</i>	EC	C. J. Brinker, K. D. Keefer, D. W. Schaefer, R. A. Assink, B.D. Kay, and C. S. Ashley, "Sol-Gel Transition in Simple Silicates II," <i>J. Non-Cryst. Sol.</i> Vol. 63, p. 45-59 (1984).					
<i>an</i>	ED	S.-B. Cho, F. Miyaji, T. Kokubo, K. Nakanishi, N. Soga, C. Ohtsuki, and T. Nakamura, "Apatite Forming Ability of Silicate Ion Dissolved from Silica Gels," <i>J. Biomed. Mat. Res.</i> Vol. 32, p. 375-381 (1996).					
<i>an</i>	EE	S.-B. Cho, K. Nakanishi, T. Kokubo, N. Soga, C. Ohtsuki, and T. Nakamura, "Apatite Formation on Silica gel in Simulated Body Fluid: Its Dependence on Structures of Silica Gels Prepared in Different Media," <i>J. Biomed. Mat. Res. (Applied Biomat)</i> Vol. 33, p. 145-151 (1996).					
<i>an</i>	EF	J.F.T. Conroy, M.E. Power, J. Martin, B. Earp, B. Hosticka, C. Daitch, and P.M. Norris, "Cells in Sol-Gels I: A High Hydrolysis Ratio, Aqueous Route for the Production of Macroporous Cytocompatible Silica Gels," <i>J. Sol-Gel Sci. Tech.</i> Vol. 18, p. 269-283 (2000).					
<i>an</i>	EG	B. C. Dave, B. Dunn, J. S. Valentine, and J. I. Zink, "Sol-Gel Encapsulation Methods for Biosensors," <i>Anal. Chem.</i> Vol. 66, p. 1120A-1127A (1994).					
<i>an</i>	EH	L.L. Hench, "Environmental Effects in Gel Derived Silicates," in <i>Better Ceramics Through Chemistry: MRS Symp. Proc.</i> ; Brinker, C. J., Clark, D. E., Ulrich, D. R., Eds.; (North-Holland, New, York, 1984) Vol. 32, p. 101-111.					
<i>an</i>	EI	L.L. Hench, G. Orcel, and J.L. Nogues, "The Role of Chemical Additives in Sol-Gel Processing," in <i>Better Ceramics Through Chemistry: MRS Symp. Proc.</i> ; Brinker, C. J., Clark, D. E., Ulrich, D. R., Eds.; (North-Holland, New York, 1986) Vol. 73, p. 35-47.					
<i>an</i>	EJ	L.C. Klein and G.J. Garvey, "Effect of Water on Acid- and Base-Catalyzed Hydrolysis of Tetraethylorthosilicate (TEOS)," in <i>Better Ceramics Through Chemistry: MRS Symp. Proc.</i> ; Brinker, C. J., Clark, D. E., Ulrich, D. R., Eds.; (North-Holland, New York, 1984) Vol. 32, p. 33-39.					
<i>an</i>	EK	K. Tadanaga, K. Iwashita, T. Minami, and N. Tohge, "Coating and Water Permeation Properties of SiO <sub>2</sub> Thin Films Prepared by the Sol-Gel Method on Nylon-6 Substrates," <i>J. Sol-Gel Sci. Tech.</i> Vol. 6, p. 107-111 (1996).					
<i>an</i>	EL	K. Tsuru, C. Ohtsuki, A. Osaka, T. Iwamoto, and J.D. Mackenzie, "Bioactivity of Sol-Gel Derived Organically Modified Silicates," <i>J. Mat. Sci. Mat. Med.</i> Vol. 8, p. 157-161 (1997).					
<i>an</i>	EM	J.K. West, R. Nikles, and G. Latorre "Correlations between Processing Parameters, Ultrastructure, and Strength of Gel-Silica," in <i>Better Ceramics Through Chemistry: MRS Symp. Proc.</i> ; Brinker, C. J., Clark, D. E., Ulrich, D. R., Eds.; (North-Holland, New York, 1988) Vol. 121, p. 219-224.					

Examiner Signature <i>an</i>	Date Considered <i>10/11/02</i>
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

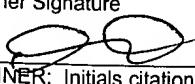
Substitute Form PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office	Application No. 09/785,188
<b>Information Disclosure Statement</b> by <b>Applicant</b> (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant J. F. T. CONROY, M.E. POWER, and P. M. NORRIS	
		Filing Date 02/20/2001	Group Art Unit UNKNOWN

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U.S. Patent Documents							
Examiner Initial	Desig. ID	Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
am	AA	3,941,719	3/2/1976	B. E. Yoldas	252	463	
am	AB	3,944,658	3/16/1976	B. E. Yoldas	423	427	
am	AC	3,948,806	4/6/1975	Witt	252	445	
am	AD	4,243,692	1/6/1981	Scholze et al.	427	22	
am	AE	4,461,832	7/24/1984	Tschang et al.	435	070	
am	AF	4,814,017	3/21/1989	B. E. Yoldas et al.	106	257	
am	AG	4,897,468	1/30/1990	Oka et al.	530	184	
am	AH	5,009,688	4/23/1991	Nakanishi	65	18.3	
am	AI	5,624,875	4/29/1997	Nakanishi et al.	501	39	
am	AJ	5,650,311	7/22/1997	Avnir et al.	435	174	
am	AK	5,746,992	5/5/1998	B. E. Yoldas et al.	423	388	
am	AL	5,824,526	10/20/1998	Avnir et al.	435	172	
am	AM	5,874,109	2/23/1999	P. Ducheyne et al.	424	488	
am	AN	6,207,098 B1	3/27/2001	Nakanishi et al.	264	414	
am	AO	6,210,570 B1	4/3/2001	Holloway	210	198.2	

Foreign Patent Documents or Published Foreign Patent Applications							
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation
							Yes No

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
am	AP	J. J. Kennedy, "Facile Methods for the Immobilization of Microbial Cells without Disruption of their Life Processes" in Immobilized Microbial Cells, (K. Venkatsubramanian, ed.) ACS Symposium Series 106, Am. Chem. Soc., Washington, D.C. (1979)
am	AQ	E. J. A. Pope, K. Braun, M. Van Hirtum, C. M. Peterson, P. Trecco, and J. D. Andrade, "Living Ceramics" in Sol-Gel Science and Technology, (E. J. A. Pope, S. Sakka, and L. Klein, eds.), Am. Ceramic Soc., Westerville, Ohio (1995).
am	AR	E. J. A. Pope, "Living Ceramic Gels for Bioartificial Organs" in Bioceramics: Materials and Applications II, (R. P. Rusin and G. S. Fischman, eds.), Ceramic Transactions Vol. 63, Am. Ceramic Soc., Westerville, Ohio (1996)

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(37 CFR §1.98(b))		Filing Date 02/20/2001	Group Art Unit UNKNOWN
<i>an</i>	AS	E. J. A. Pope, K. Braun, and C. M. Peterson, "Bioartificial Organs I: Silica Gel Encapsulated Pancreatic Islets for the Treatment of Diabetes Mellitus," J. Sol-Gel Sci. Tech. 8, 635-639 (1997)	
<i>an</i>	AT	K. P. Peterson, C. M. Peterson, and E. J. A. Pope, "Silica Sol-Gel Encapsulation of Pancreatic Islets," Proc. Soc. Exp. Biol. Med. 218:, 365-369 (1998)	
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U.S. Patent Documents							
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<i>dm</i>	BA	5,409,683	4/25/1995	Tillotson et al.	423	338	<b>RECEIVED</b>
<i>dm</i>	BB	5,998,162	12/7/1999	Cappelletti et al.	435	41	
<i>dm</i>	BC	6,214,593	4/10/2001	Carturan et al.	435	175	OCT 17 2001
	BD						TECH CENTER 1600/2900

#### Foreign Patent Documents or Published Foreign Patent Applications

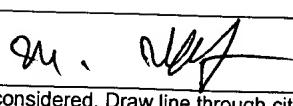
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No

#### Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
<i>dm</i>	BE	M Altstein, G. Segev, N. Aharonson, O. Ben-Aziz, A. Turniansky, and D. Avnir, "Sol-Gel Entrapped Cholinesterases: A Microtiter Plate Method for Monitoring Anti-Cholinesterase Compounds," <i>J. Agric. Food Chem.</i> 46, 3318-3324 (1998). <input checked="" type="checkbox"/>
<i>dm</i>	BF	D. Avnir, S. Braun, O. Lev, and M. Ottolenghi, "Enzymes and other Proteins Entrapped in Sol-Gel Materials," <i>Chem. Mater.</i> 6, 1605-1614 (1994). <input checked="" type="checkbox"/>
<i>dm</i>	BG	A. Bronshtein, N. Aharonson, D. Avnir, A. Turniansky, and M. Altstein, "Sol-Gel Matrices Doped with Atrazine Antibodies: Atrazine Binding Properties," <i>Chem. Mater.</i> 9, 2632-2639 (1997). <input checked="" type="checkbox"/>
<i>dm</i>	BH	L. Ellerby, C. Nishida, F. Nishida, S. Yamanaka, B. Dunn, J.S. Valentine, J.I. Zink, "Encapsulation of Proteins in Transparent Porous Silicate Glasses Prepared by the Sol-Gel Method," <i>Science</i> 255, 1113-1115 (1992). <input checked="" type="checkbox"/>
<i>dm</i>	BI	C. Hamanishi, K. Kitamoto, S. Tanaka, M. Otsuka, Y. Doi, and T. Kitahashi, "A self-Setting TTCP-DCPD Apatite Cement for Release of Vancomycin," <i>J. Biomed. Mater. Res. (App. Biomat.)</i> 33, 139-143 (1996). <input checked="" type="checkbox"/>
<i>dm</i>	BJ	N. Ishizuka, H. Minakuchi, K. Nakanishi, N. Soga, H. Nagayama, K. Hosoya, and N. Tanaka, "Performance of a Monolithic Silica Column in a Capillary under Pressure-Driven and Electrodriven Conditions," <i>Anal. Chem.</i> 72, 1275-1280 (2000). <input checked="" type="checkbox"/>
<i>dm</i>	BK	P. Johnson and T. Whateley, "On the Use of Polymerizing Silica Gel Systems for the Immobilization of Trypsin," <i>J. Coll. Int. Sci.</i> 37, 557-563 (1971). <input checked="" type="checkbox"/>
<i>dm</i>	BL	P. Johnson and T. Whateley, "The Effect of Glass and Silica Surfaces on Trypsin and a-Chymotrypsin Kinetics," <i>Biochimica et Biophysica Acta</i> 276, 323-327 (1972). <input checked="" type="checkbox"/>
<i>dm</i>	BM	H. Kaji, K. Nakanishi, and N. Soga, "Polymerization-Induced Phase Separation in Silica Sol-Gel Systems Containing Formamide," <i>J. Sol-Gel Sci. Tech.</i> 1, 35-46 (1993). <input checked="" type="checkbox"/>
<i>dm</i>	BN	K. Kajihara, K. Nakanishi, K. Tanaka, K. Hirao, and N. Soga, "Preparation of Macroporous Titania Films by a Sol-Gel Dip-Coating Method from the System Containing Poly(ethylene glycol)," <i>J. Am. Ceram. Soc.</i> 81, 2670-2676 (1998). <input checked="" type="checkbox"/>

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<i>an</i>	BO	H. Minakuchi, K. Nakanishi, N. Soga, N. Ishizuka, and N. Tanaka, "Octadecylsilylated Porous Silica Rods as Separation Media for Reversed-Phase Liquid Chromatography," <i>Anal. Chem.</i> 68, 3498-3501 (1996). <span style="float: right;">✓</span>	
<i>an</i>	BP	K. Nakanishi, N. Soga, H. Matsuoka, and M. Ise, "Small-Angle X-ray Scattering Study of Gelling Silica-Organic Polymer Solution: Systems Containing Poly(Sodium Styrenesulfonate)," <i>J. Am. Ceram. Soc.</i> 75, 971-975 (1992). <span style="float: right;">✓</span>	
<i>an</i>	BQ	P. Norris, M. Power, E. Black, J. Gallaher, B. Hosticka, and J. Conroy, "The Biogel Cellular Support Matrix," <i>SEAS Report No. UVA/532567/MAE00/101</i> , (1999). <span style="float: right;">✓</span>	
<i>an</i>	BR	C. Rottman, G. Grader, Y. De Hazan, S. Melchior, and D. Avnir, "Surfactant-Induced Modification of Dopants Reactivity in Sol-Gel Matrices," <i>J. Am. Chem. Soc.</i> 121, 8533-8543 (1999). <span style="float: right;">✓</span>	
<i>an</i>	BS	D. Shabat, F. Grynszpan, S. Saphier, A. Turniansky, D. Avnir, and E. Keinan, "An Efficient Sol-Gel Reactor for Antibody-Catalyzed Transformations," <i>Chem. Mater.</i> 9, 2258-2260 (1997). <span style="float: right;">✓</span>	
<i>an</i>	BT	B. Unger, H. Jancke, M. Haehnert, and H. Stade, "The Early Stages of the Sol-Gel Processing of TEOS," <i>J. Sol-Gel Sci. Tech.</i> 2, 51-56 (1994). <span style="float: right;">✓</span>	
	BU		

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Sheet 1 of 1

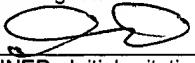
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dm	AA	3,948,806	4/6/1975	Witt	252	451	
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dm	AC	4,461,832	7/24/1984	Tschang et al.	435	174	
dm	AD	4,897,468	1/30/1990	Oka et al.	530	811	
dm	AE	5,009,688	4/23/1991	Nakanishi	45	183	
dm	AF	5,624,875	4/29/1997	Nakanishi et al.	501	39	
dm	AG	5,650,311	7/22/1997	Avnir et.al.	435	174	
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Other Documents (include Author, Title, Date, and Place of Publication)		
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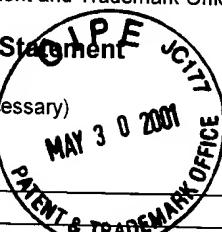
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09/785,188Information Disclosure Statement  
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(Use several sheets if necessary)

(37 CFR §1.98(b))



## Applicant

J. F. T. CONROY, M.E. POWER, and P. M.  
NORRISFiling Date  
02/20/2001Group Art Unit  
UNKNOWN

U.S. Patent Documents							
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<i>our</i>	AF	5,874,109	2/23/1999	P. Ducheyne et al.	424	484	
<i>our</i>	AG	5,746,992	5/5/1998	B. E. Yoldas et al.	423	338	
<i>our</i>	AH	4,814,017	3/21/1989	B. E. Yoldas et al.	101	287,12	
<i>our</i>	AI	3,944,658	3/16/1976	B. E. Yoldas	423	624	
<i>our</i>	AJ	3,941,719	3/2/1976	B. E. Yoldas	252	463	

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<i>our</i>	AL	K. P. Peterson, C. M. Peterson, and E. J. A. Pope, "Silica Sol-Gel Encapsulation of Pancreatic Islets," <i>Proc. Soc. Exp. Biol. Med.</i> 218: 365-369 (1998) ✓
<i>our</i>	AM	E. J. A. Pope, K. Braun, M. Van Hirtum, C. M. Peterson, P. Tresco, and J. D. Andrade, "Living Ceramics" in <i>Sol-Gel Science and Technology</i> , (E. J. A. Pope, S. Sakka, and L. Klein, eds.), Am. Ceramic Soc., Westerville, Ohio (1995). ✓
<i>our</i>	AN	E. J. A. Pope, "Living Ceramic Gels for Bioartificial Organs" in <i>Bioceramics: Materials and Applications II</i> , (R. P. Rusin and G. S. Fischman, eds.), Ceramic Transactions Vol. 63, Am. Ceramic Soc., Westerville, Ohio (1996) ✓
<i>our</i>	AO	J. J. Kennedy, "Facile Methods for the Immobilization of Microbial Cells without Disruption of their Life Processes" in <i>Immobilized Microbial Cells</i> , (K. Venkatsubramanian, ed.) ACS Symposium Series 106, Am. Chem. Soc., Washington, D.C. (1979) ✓

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